Instructions: Solve the following definite integrals. On the quiz points will only be given for correct work, not for just a correct answer. Show all steps in the solution.

1. \[ \int_{0}^{2} 3x\sqrt{9-x^2} \, dx \]

2. \[ \int_{-\pi/2}^{\pi} \cos(2x)e^{\sin(2x)} \, dx \]

3. \[ \int_{0}^{\sqrt{\pi}} x\sin(3x^2) \, dx \]

4. \[ \int_{0}^{\pi/4} -\cos(tan(x))\sec^2(x) \, dx \]

5. \[ \int_{1/2}^{1} (2x-1)^7 \, dx \]

6. \[ \int_{-1}^{2} \frac{2x^2}{3+2x^3} \, dx \]

7. \[ \int_{0}^{2} (3-2x)^3 \, dx \]

8. \[ \int_{\pi/6}^{\pi/3} 2\tan(x) \, dx \]

9. \[ \int_{0}^{3/2} \frac{x}{\sqrt{3-2x}} \, dx \]

10. \[ \int_{\sqrt{e}}^{e} \frac{1}{x\sqrt{\ln(x)}} \, dx \]

11. \[ \int_{0}^{1} \frac{\cos(\sqrt{x})}{\sqrt{x}} \, dx \]